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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/611,851	07/03/2003	Gaku Sugahara	63979-027	3885

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Washington, DC 20005-3096

EXAMINER

JACKSON, CORNELIUS H

ART UNIT PAPER NUMBER

2828

DATE MAILED: 03/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/611,851

Applicant(s)

SUGAHARA ET AL.

Examiner

Cornelius H. Jackson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 10/3/03.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 2, 4 and 5 are rejected under 35 U.S.C. 102(e) as being anticipated by Oohata (6770960). Regarding claim 1, Oohata discloses a method for fabricating a nitride semiconductor laser device **Fig. 4**, which comprises; a first step to form a multi-layered semiconductor on a substrate **col. 5, lines 64-67**, the multi-layered semiconductor containing at least an n-type nitride semiconductor layer **1**, an active layer **2**, and a p-type nitride semiconductor layer **3**; a second step to expose the surfaces of the n-type nitride semiconductor layer **1** and the p-type nitride semiconductor layer **3** at different heights (*due to the slant*) by selectively etching the multi-layered semiconductor; a third step to cover the surface of the multi-layered semiconductor, including the exposed surfaces of the n-type nitride semiconductor layer **1** and the p-type nitride semiconductor layer **3**, with an insulating film **4** that has a

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thickness greater than the difference in levels between the exposed surface of the n-type nitride semiconductor layer and the outermost surface of the p-type nitride semiconductor layer; a fourth step to flatten the surface of the insulating film **4**; and a fifth step to form an n-type electrode **8** and a p-type electrode **11** that are electrically connected to the n-type nitride semiconductor layer **1** and the p-type nitride semiconductor layer **3**, respectively, through the insulating film **4**.

Regarding claim 2, Oohata discloses further comprises; a sixth step, following the fifth step, to press-fit the surface of the insulating film to a sub-mount containing a first wire and a second wire by using heat-melted solder structures and electrically connect the n-type electrode and the p-type electrode to the first wire and the second wire, respectively, **col. 1, lines 24-28**.

Regarding claim 4, Oohata discloses a nitride semiconductor laser device **Fig. 4**, which comprises: a multi-layered semiconductor that is formed on a substrate **col. 5, lines 64-67** and that contains at least an n-type nitride semiconductor layer **1**, an active layer **2**, and a p-type nitride semiconductor layer **3**; and an n-type electrode **8** and a p-type electrode **11** that are electrically connected to the n-type nitride semiconductor layer **1** and the p-type nitride semiconductor layer **3**, respectively; characterized in that the nitride semiconductor laser device comprises an insulating film **4** that covers the multi-layered semiconductor; the n-type electrode **8** and the p-type electrode **11** are electrically connected to the n-type nitride semiconductor layer **1** and the p-type nitride semiconductor layer **3**, respectively through the insulating film **4**; the thickness of the insulating film **4** is greater than the difference in levels between the surface with which

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the n-type electrode **8** and the n-type nitride semiconductor layer **1** come into contact and the outermost surface of the p-type nitride semiconductor layer **11**; and the surface of the insulating film **4** is flat.

Regarding claim 5, Oohata discloses further comprises a sub-mount that has a first wire and a second wire that are electrically connected to the n-type electrode and the p-type electrode through solder structures, **col. 1, lines 24-28**.

3. Claims 1-5 are rejected under 35 U.S.C. 102(e) as being anticipated by Bui et al. (6815790). Regarding claim 1, Bui et al. disclose a method for fabricating a nitride semiconductor laser device **Figs. 11-13**, which comprises; a first step to form a multi-layered semiconductor **1120, 1130, 1140** on a substrate **1110**, the multi-layered semiconductor containing at least an n-type nitride semiconductor layer **1120**, an active layer **1130**, and a p-type nitride semiconductor layer **1140**; a second step to expose the surfaces of the n-type nitride semiconductor layer **1120** and the p-type nitride semiconductor layer **1140** at different heights by selectively etching the multi-layered semiconductor **col. 6, lines 41-42**; a third step to cover the surface of the multi-layered semiconductor **col. 6, lines 41-42**, including the exposed surfaces of the n-type nitride semiconductor layer **1120** and the p-type nitride semiconductor layer **1140**, with an insulating film **1170** that has a thickness greater than the difference in levels between the exposed surface of the n-type nitride semiconductor layer **1120** and the outermost surface of the p-type nitride semiconductor layer **1140**; a fourth step to flatten the surface of the insulating film **1170**; and a fifth step to form an n-type electrode **1160** and a p-type electrode **1150** that are electrically connected to the n-type nitride

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semiconductor layer **1120** and the p-type nitride semiconductor layer **1140**, respectively, through the insulating film **1170**.

Regarding claim 2, Bui et al. disclose further comprises; a sixth step, following the fifth step, to press-fit the surface of the insulating film to a sub-mount containing a first wire and a second wire by using heat-melted solder structures and electrically connect the n-type electrode and the p-type electrode to the first wire and the second wire, respectively, **col. 6, lines 59-67**.

Regarding claim 3, Bui et al. disclose wherein the insulating film contains fine-grains of a metal or a semiconductor, **col. 6, lines 42-45**.

Regarding claim 4, Bui et al. disclose a nitride semiconductor laser device **Figs. 11-13**, which comprises: a multi-layered semiconductor that is formed on a substrate **1110** and that contains at least an n-type nitride semiconductor layer **1120**, an active layer **1130**, and a p-type nitride semiconductor layer **1140**; and an n-type electrode **1160** and a p-type electrode **1150** that are electrically connected to the n-type nitride semiconductor layer **1120** and the p-type nitride semiconductor layer **1140**, respectively; characterized in that the nitride semiconductor laser device comprises an insulating film **1170** that covers the multi-layered semiconductor; the n-type electrode **1160** and the p-type electrode **1150** are electrically connected to the n-type nitride semiconductor layer **1120** and the p-type nitride semiconductor layer **1140**, respectively through the insulating film **1170**; the thickness of the insulating film **1170** is greater than the difference in levels between the surface with which the n-type electrode **1160** and the n-type nitride semiconductor layer **1120** come into contact and the outermost surface of

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the p-type nitride semiconductor layer **1140**; and the surface of the insulating film **1170** is flat.

Regarding claim 5, Bui et al. disclose further comprises a sub-mount that has a first wire and a second wire that are electrically connected to the n-type electrode and the p-type electrode through solder structures, **col. 6, lines 59-67**.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cornelius H. Jackson whose telephone number is (571)272-1942. The examiner can normally be reached on 8:00 - 5:00, Monday - Friday.

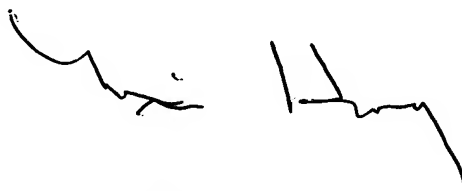
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, MinSun Harvey can be reached on (571)272-1835. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



chj



MINCHUN H. HARVEY  
PATENT EXAMINER